

ADDITIONAL HASH FUNCTIONS IN CONTENT-BASED ADDRESSING

ABSTRACT OF THE DISCLOSURE

A hash function used for content addressing is different from the hash function used for content verification. Adding a file to a database involves storing both hash function values in a table as pair. Verifying the integrity of a file believed to be a duplicate in a database, or when retrieving a file, makes use of the verification hash function. Files can be continuously checked. A multi-level database can be used. A second hash function can be added to an existing system. A verification hash function can be upgraded and more than one content verification hash function can be used. In a variation, a random number generator is used instead of a hash function for content addressing; the verification hash function is also used. Files addressed using a random number are added or retrieved from a database and their verification hash values are checked. Time stamps and digital signatures are used for security.